Haverhill Municipal Landfill

Haverhill, MA

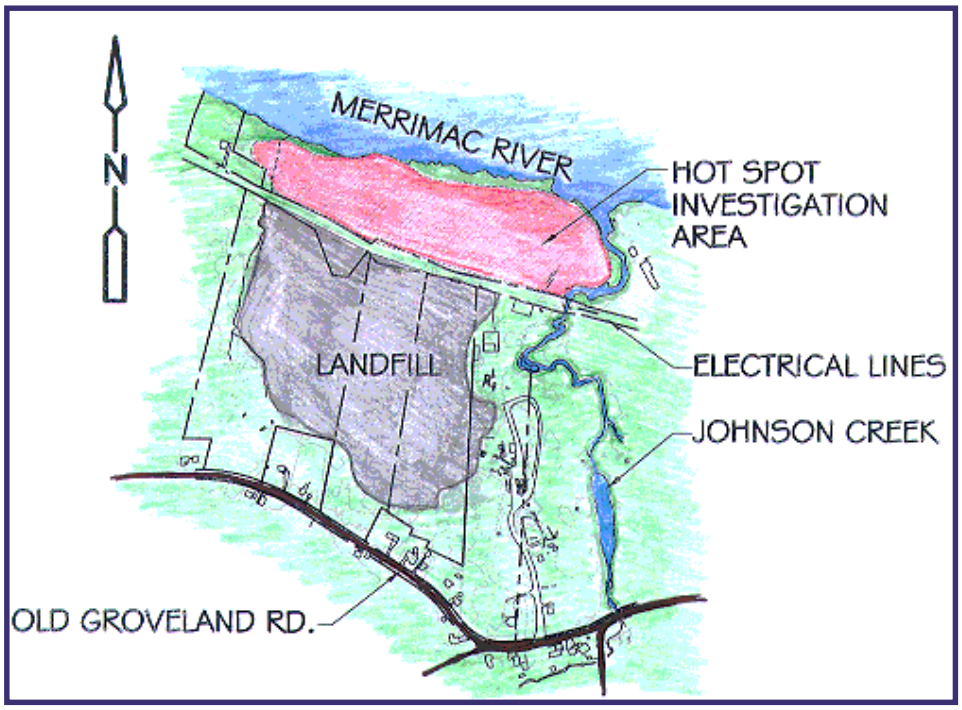
January 2004

The U.S. Environmental Protection Agency and the Massachusetts Department of Environmental Protection are working cooperatively with the Town of Haverhill and Aggregate Industries, Inc. to close the Haverhill Municipal Landfill. Below is an update on activities at the landfill.

Introduction

Haverhill Municipal Landfill is a 71-acre landfill located adjacent to the Merrimac River, southeast of downtown Haverhill and near the Groveland town line. Old Groveland Road runs along the southern border of the site. Although listed as a Superfund site in 1984, closure activities at the site have been under the direction of the Massachusetts Department of Environmental Protection (MADEP), which has been working with the City of Haverhill and Aggregate Industries, Inc. to close the landfill under the MADEP solid waste regulations.

EPA has been involved with the project to insure that the ongoing investigations and final closure of the landfill meet the requirements of the federal Superfund program.



The landfill, which initially operated in the 1940s as an industrial landfill, began accepting municipal waste in the 1960s and continued to do so until it was closed in 1981. Wastes, including municipal refuse, steel drums, tires, and flammables such as lacquers, paints, oils and glues, were either dumped on the surface of the site or deposited in shallow pits. From 1978 through 1996, sludge generated by the Haverhill Wastewater Treatment Plant and by-products from the paper manufacturing process at the Haverhill Paperboard Company were disposed of at the landfill. The sludge was mixed with sand or loam and then spread over the surface of the landfill for topsoil. During 1996, the City covered the landfill with an interim soil cover.

Background

The City of Haverhill, which owns approximately 23 acres of the landfill, began a comprehensive investigation of the site in 1981. Activities since then have included sampling and analysis of groundwater monitoring wells installed at the landfill, surface water and sediment sampling from nearby Johnson Creek and

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the Merrimac River, and landfill gas monitoring. During landfill gas monitoring activities conducted in 1992, elevated levels of landfill gas were detected along the southern property line. An interim passive gas venting system was installed in 1994 to alleviate the potential buildup of landfill gas along this boundary. The consultant for the City and Aggregate, Camp Dresser & McKee (CDM), continues to monitor landfill gas in this area on a quarterly basis and is evaluating whether a gas extraction system should be installed as part of the final closure plan for the landfill.

In 1999, the City of Haverhill and Aggregate Industries, Inc. entered into a cooperative agreement with MADEP to conduct additional site investigations and to determine what risks, if any, contamination at the site poses to the public or the environment. MADEP also ordered the two parties to evaluate alternatives for closing the landfill, design a plan for closing the landfill, and implement the plan following its final approval by MADEP.

Buried Drums Found in the Hot Spot Area

As part of these recent site investigations, the City and Aggregate discovered several "hot spots" or potential hazardous waste disposal areas in the northern parcel of the landfill, between the old railroad bed and the Merrimac River. Using historical aerial photos that showed suspected drum and liquid waste disposal operations in this area of approximately 25 acres, an investigation of the hot spot area began in December 2002. The first step involved the use of ground penetrating radar to locate buried metals that could potentially be drums. Thirteen separate areas were identified as having large amounts of buried metals.

Starting in July of 2003, test pits were dug in order to visually determine if the buried metals identified by the ground penetrating radar were in fact drums containing hazardous liquids or solids, and if so, to determine the best method for removing them.

A small number of drums in various states of decay were discovered and removed from several of the test pit areas. Some of the drums were empty and others contained liquids or solids. They are currently stored on-site and will be sent off-site for disposal at an approved permitted disposal facility following a detailed analysis of their contents. During the excavation activities, no physical signs of leaking drums, such as stained soil or free liquids, were noticed. In addition, samples recently collected from nearby groundwater monitoring wells do not show an increased level of groundwater contamination but remain consistent with historical sampling data from these wells.


Test pit excavation.

In the two largest areas, Areas G and I, buried drums were found up to 18 feet below the surface of the ground. Camp Dresser & McKee has estimated that both areas G and I combined may contain approximately 6,500 drums. Due to the depth of the buried drums along with the steep slopes where any extensive drum removal activities would occur, and the large volume of drums found; the excavation and removal effort was suspended in September 2003 until a more comprehensive plan can be developed in order to safely remove the drums.


Crushed drum removed from test pit.

Next Steps

This winter, the City and Aggregate will provide EPA and MADEP with a detailed analysis of the materials found in the drums which are currently stored on-site. They will also submit a plan describing what actions will be taken to maintain the stability of the buried drum areas.

In spring 2004, the City and Aggregate will present a new plan to the agencies for safely accessing, sampling and removing the buried drums. They will also present a schedule for the work.

EPA and MADEP are working with the City and Aggregate to investigate potential sources of funding for removing and properly disposing of the drums.

The final design of a cap for the landfill will take into consideration the buried drums, the 100-year floodplains, nearby wetlands, as well as the steep slopes adjacent to Johnson Creek and the Merrimac River. However, before the cap can be designed, the buried drum investigation and removal will need to be completed. ❖